

WHAT IS CLAIMED IS:

1. A borosilicate glass with a composition in a percent by weight on an oxide basis, including: 60 - 75% SiO₂, 10 - 15% B₂O₃, 5 - 15% Na₂O, 5 - 10% K₂O, 0.1 - 1% CaO, 0.5 - 3% BaO, > 0 - 1.7% TiO₂, 0 - 0.5% Sb₂O₃, and normal refining agents.

2. A borosilicate glass according to claim 1, wherein the composition in the percent by weight on the oxide basis includes 65 - 75% SiO₂, 10 - 13% B₂O₃, 6 - 12% Na₂O, 5 - 10% K₂O, 0.1 - 0.5% CaO, 0.5 - 2.5% BaO, 0 - 1.7% TiO₂, 0 - 0.5% Sb₂O₃, and normal refining agents.

3. A borosilicate glass according to claim 2, wherein the composition in a second percent by weight on a second oxide basis further includes 0.5 - 2.5% SrO, 0.1 - 1% Mg, and 0 - 5% Li₂O.

4. A borosilicate glass according to claim 3, wherein the composition is free of As₂O₃, PbO and CeO₂, apart from unavoidable impurities.

5. A borosilicate glass according to claim 4 having steep edge situations λ_c between 280 nm and 325 nm and a pure transmission degree of τ_{ip} in a pass range of greater than 98% and an optical density in a stop range of $1 * 10^{-5}$ with a sample thickness of 2 mm.

6. A borosilicate glass according to claim 5, having an edge situation in a range between 280 to 295 nm, and a TiO₂ content of greater than 0 to 0.1% by weight on an oxide basis.

7. A borosilicate glass according to claim 5, having an edge situation in a range between 290 and 305 nm, and a TiO₂ content of 0.05 to 0.3% by weight on an oxide basis.

8. A borosilicate glass according to claim 5, having an edge situation in a range between 300 to 315 nm, and a TiO₂ content of 0.16 to 0.8% by weight on an oxide basis.

9. A borosilicate glass according to claim 5, having an edge situation in a range between 310 to 325 nm, and a TiO₂ content of 0.5 to 1.7% by weight on an oxide basis.

10. A borosilicate glass according to claim 9, used for producing filter glass for UV cut-off filters in at least one of a UVB range and a UVC range.

11. A borosilicate glass according to claim 10, used for producing filter glass for one of illumination tables and weathering instruments.

12. A borosilicate glass according to claim 10, used for producing optical glass for imaging optics, projection, telecommunications, optical telecommunications technology and microlithography.

13. A borosilicate glass according to claim 12, having a transformation temperature T_g greater than 560°C , with a thermal expansion coefficient $\alpha_{(20/300)}$ between 7.5 and $8.8 * 10^{-6}/\text{K}$, and steep edge situations between 275 nm and 325 nm.

14. A borosilicate glass according to claim 1, wherein the composition in a second percent by weight on a second oxide basis further includes 0.5 - 2.5% SrO, 0.1 - 1% Mg, and 0 - 5% Li₂O.

15. A borosilicate glass according to claim 1, wherein the composition is free of As₂O₃, PbO and CeO₂, apart from unavoidable impurities.

16. A borosilicate glass according to claim 1 having steep edge situations λ_c between 280 nm and 325 nm and a pure transmission degree of τ_{ip} in a pass range of greater than 98% and an optical density in a stop range of $1 * 10^{-5}$ with a sample thickness of 2 mm.

17. A borosilicate glass according to claim 1, having an edge situation in a range between 280 to 295 nm, and a TiO₂ content of greater than 0 to 0.1% by weight on an oxide basis.

18. A borosilicate glass according to claim 1, having an edge situation in a range between 290 and 305 nm, and a TiO₂ content of 0.05 to 0.3% by weight on an oxide basis.

19. A borosilicate glass according to claim 1, having an edge situation in a range between 300 to 315 nm, and a TiO₂ content of 0.16 to 0.8% by weight on an oxide basis.

20. A borosilicate glass according to claim 1, having an edge situation in a range between 310 to 325 nm, and a TiO₂ content of 0.5 to 1.7% by weight on an oxide basis.

21. A borosilicate glass according to claim 1, used for producing filter glass for UV cut-off filters in at least one of a UVB range and a UVC range.

22. A borosilicate glass according to claim 1, used for producing filter glass for one of illumination tables and weathering instruments.

23. A borosilicate glass according to claim 1, used for producing optical glass for imaging optics, projection, telecommunications, optical telecommunications technology and microlithography.

24. A borosilicate glass according to claim 1, having a transformation temperature T_g greater than 560°C , with a thermal expansion coefficient $\alpha_{(20/300)}$ between 7.5 and $8.8 * 10^{-6}/\text{K}$, and steep edge situations between 275 nm and 325 nm.